

JET FUELS: JP-5

JPV

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Kerosene, heavy		Liquid	Colorless	Fuel oil odor
Floats on water.				
Keep people away. Avoid contact with liquid. Shut off ignition sources and call fire department. Notify local health and pollution control agencies.				
Fire	Combustible. Extinguish with dry chemical, foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.			
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING.			
Water Pollution	Dangerous to aquatic life in high concentrations. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim
Chemical and Physical Treatment: Burn
Clean shore line
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 33; Miscellaneous Hydrocarbon Mixtures
2.2 Formula: Not pertinent
2.3 IMO/UN Designation: 3.3/2761
2.4 DOT ID No.: 1863
2.5 CAS Registry No.: Currently not available
2.6 NAERG Guide No.: 128
2.7 Standard Industrial Trade Classification: 33412

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective gloves; goggles or face shield.
3.2 Symptoms Following Exposure: Vapor causes slight irritation of eyes and nose. Liquid irritates stomach; if taken into lungs, causes coughing, distress, and rapidly developing pulmonary edema.
3.3 Treatment of Exposure: ASPIRATION: Enforce bed rest; administer oxygen; call a doctor. INGESTION: Do NOT induce vomiting; call a doctor. EYES: Wash with plenty of water. SKIN: wipe off and wash with soap and water.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 2; LD₅₀ = 0.5 to 5 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
3.12 Odor Threshold: 1 ppm
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 140°F (min.)C.C.
4.2 Flammable Limits in Air: 0.6%-4.6%
4.3 Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: 475°F
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: 4 mm/min.
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichiometric Air to Fuel Ratio: Not pertinent.
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: 500 ppm*/salmon fingerling/lethal/ fresh water
*Time period not specified
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): 53%, 5 days
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: 100%
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Flammable liquid
8.2 49 CFR Class: 3
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	0
Flammability (Red).....	2
Instability (Yellow).....	0

8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: Not pertinent
9.3 Boiling Point at 1 atm: 349-549°F = 176-287°C = 449-560°K
9.4 Freezing Point: <-54°F = <-48°C = <-225°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 0.82 at 15°C (liquid)
9.8 Liquid Surface Tension: (est.) 25 dynes/cm = 0.025 N/m at 20°C
9.9 Liquid Water Interfacial Tension: (est.) 50 dynes/cm = 0.05 N/m at 20°C
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: 140 Btu/lb = 78 cal/g = 3.3 X 10⁵ J/kg
9.13 Heat of Combustion: -18,540 Btu/lb = -10,300 cal/g = -431.24 X 10⁵ J/kg
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
34	52.370	0	0.444	0	0.926	-35	10.600
36	52.300	10	0.449	10	0.924	-30	9.614
38	52.230	20	0.454	20	0.921	-25	8.739
40	52.160	30	0.459	30	0.919	-20	7.960
42	52.090	40	0.464	40	0.917	-15	7.266
44	52.020	50	0.469	50	0.915	-10	6.646
46	51.950	60	0.474	60	0.913	-5	6.090
48	51.880	70	0.479	70	0.911	0	5.592
50	51.810	80	0.484	80	0.909	5	5.144
52	51.740	90	0.489	90	0.907	10	4.740
54	51.670	100	0.494	100	0.905	15	4.376
56	51.600	110	0.499	110	0.903	20	4.046
58	51.530	120	0.504	120	0.901	25	3.747
60	51.460	130	0.509	130	0.899	30	3.476
62	51.390	140	0.514	140	0.897	35	3.229
64	51.320	150	0.519	150	0.895	40	3.004
66	51.260	160	0.524	160	0.893	45	2.799
68	51.190	170	0.529	170	0.891	50	2.612
70	51.120	180	0.534	180	0.889	55	2.440
72	51.050	190	0.539	190	0.887	60	2.282
74	50.980	200	0.544	200	0.885	65	2.138
76	50.910	210	0.549	210	0.883	70	2.005
78	50.840					75	1.883
80	50.770						
82	50.700						
84	50.630						

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	130	0.101		N		C
	N	140	0.130		O		U
	S	150	0.166		T		R
	O	160	0.210				R
	L	170	0.264		P		E
	U	180	0.330		E		N
	B	190	0.409		R		T
	L	200	0.504		T		L
	E	210	0.616		I		Y
		220	0.750		N		N
		230	0.907		E		O
		240	1.091		N		T
		250	1.306		T		A
		260	1.555				V
		270	1.843				A
		280	2.174				I
		290	2.553				L
		300	2.986				A
							B
							L
							E